



MARINA

The Quarterly Newsletter of
The Hong Kong Institute of Marine Technology and
The Hong Kong Joint Branch of The Royal Institution of Naval Architects
and The Institute of Marine Engineering, Science and Technology

IMAREST

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暨輪機工程及海事科技學會香港聯合分會季刊

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Shipping & Maritime News

IMO Sub-Committee on Bulk Liquids and Gases 11 (BLG 11) (16-20 April 2007)

Review of MARPOL Annex VI and the NOx Technical Code

The Working Group (WG) on Air Pollution met on 17 and 18 April 2007 with a total number of 121 representatives from 29 member States, 1 Associate Member, 1 IGO and 12 NGOs. The WG agreed to undertake discussion of various issues given by the Plenary with the outcome as follows:-

1. Volatile organic compounds (VOCs)

ICS suggested including the VOC management for petroleum terminals in addition to the tankers but was opposed by IAPH and some delegates as it would be inappropriate for IMO to stipulate mandatory on-shore requirements. The proposed text on the amendment to Regulation 15 of MARPOL Annex VI on the future control of VOC emissions was agreed along with the draft guidelines for the development of a VOC management plan.

2. NOx standards for new engines

(i) “Tier II” – the WG agreed that the appropriate date for implementation of the Tier II standard should be 1 Jan., 2011 and that the standard should be attainable through in-engine design modifications. Majority of delegates in the WG expressed support for a fixed gram per kWh and should be in the range of 2 to 3.5 grams per kWh, approx. 20%, reduction across the current NOx curve of the existing emission limits for high, medium and slow speed diesel engines

under MARPOL Annex VI. As advised by EUROMOT, more frequent overhaul of main engine could result in a 20% reduction of NOx emission. If for 30% reduction, reduction of power output might result, e.g. the power output of an 8-cylinder engine would need to be replaced with a 9-cylinder engine to achieve such a high standard.

(ii) “Tier III” – the WG generally agreed that 2015/2016 was appropriate for implementation of the Tier III new-build standard. Substantial reductions would be necessary to offset the growth in emissions associated with world trade. The following issues were considered in determining the level of reduction:-

- (a) candidate technologies;
- (b) engines to which the standard applies;
- (c) geographic scope of application;
- (d) fuel consumption and fuel implications;
- (e) physical space considerations;
- (f) operating costs;

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- (g) low load emission performance;
- (h) Green House Gas emissions; and
- (i) Enforcement / verification efforts.

The options from Japan and US asked for around 80% reduction from Tier I with after-treatment devices, i.e. SCR or Humid Air Motor (HAM) while the option of Norway asked for 40-50% reduction but it is met by advance in-engine modification or by exhaust gas recirculation (EGR).

3. Draft text for the definition of tonnage

As in plenary, majority of delegates expressed their view of using the GT as defined under 1969 ITC when applying MARPOL Annex VI and the WG agreed that there was no need to recommend any updating or amendments to any resolutions or circulars on the issue.

4. Introduction of economic instruments in MARPOL Annex VI to reduce emissions – base document

Majority of delegates supported the possibility of using economic instruments in emission reduction strategies as trial basis. However, some delegates expressed concerns over the effectiveness of such instruments compared to prescriptive regulations. The WG reviewed and amended the text (Regulation 4 – Equivalent) and agreed to forward it to the Plenary for consideration.

5. NOx emission standards for existing engines

The Norwegian proposal would apply to pre-2000, 2-S engines while proposals from the US and Denmark would apply to 2-S and large-displacement 4-S pre-2000 engines. The WG agreed that those engines should meet the Tier I NOx standard (Existing MARPOL Annex VI NOx

emission standard) by means of in-engine modification. However, the WG also noted that some old engines would experience difficulties in the modification due to unavailability of parts and some manufactures were no longer in business. Norway proposed to grant exemption to those vessels that were unable to be modified to meet the Tier I standard. The WG agreed that more extensive information would be needed to establish decision on the issue. The information as committed to be provided by Denmark and U.K. is given as follows:–

- (i) Summary of the engine modifications to achieve compliance with the Tier I NOx emission standard;
- (ii) Identify engines where modifications are inappropriate;
- (iii) Handling of vessels that are unable to meet the standard in an equitable manner; and
- (iv) Potential tradeoffs with CO2 emissions.

6. Options for addressing Sulphur Oxides and Particulate Matter (PM)

The WG considered the submission from some members States on the issue in this session and the options proposed in the November 2006 intersessional



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meeting held in Norway, the WG agreed to adopt three consolidated options and were categorized as follows:–

- (i) Option A – the existing MARPOL Annex VI requirement;
- (ii) Option B – proposals by BIMCO and the US based on a global cap with geographical requirements based on emission standard and the structure of existing MARPOL Annex VI;
- (iii) Option C – purely global fuels approach

All the above options allow for exhaust gas cleaning for meeting the required emission standard.

7. Amendments to resolution MEPC. 130(53)

Due to time constraints, the WG was unable to consider the paper and agreed to defer the document to MEPC 56 for consideration in connection with the washwater criteria for Exhaust Gas-SOx Cleaning Systems.

8. Other issues

A splinter group was formed to deal with issues mainly related to NOx Technical Code. The WG discussed the outcome of the splinter group and concurred with the report. A brief account on the outcome is as follows:–

- (a) Proposal to achieve conformity of the NOx Technical Code with ISO 8178 – partly agreed.
- (b) Proposal to harmonize a record book of engine parameters – no conclusion
- (c) Recording handling of Ozone Depleting Substances (ODS) – agreed to have ODS Record if vessels carry ODS.

(d) Estimation method of PM emitted from marine engine – the issue is to be reviewed in future.

(e) Application of MARPOL Annex VI regulation 13(1)(b) – with unclear definitions for rigs and platforms, the issue is to be revisited in future.

(f) Comments and proposed amendments to regulation 16 of MARPOL Annex VI – no conclusion on split separating requirements to incineration and incinerators as some delegates had reservation on the issue.

(g) Review of on-board NOx direct measurements and monitoring – Japan would submit further information.

(h) Review of MARPOL Annex VI – As Annex VI had entered into force, regulation 6 to be edited. Proposed text to be clarified with respect to new Parties to the 1997 Protocol.

(i) IACS Unified Interpretations – IACS provided further information on the application of IACS UI MPC 45(B) relevant to NOx Technical Code and the NOx critical components.

Due to the time constraint, the WG was unable to consider a number of issues identified by the WG at the intersessional meeting held in November 2006 and agreed to defer these issues to the next session.

9. Target completion, possible extension and work programme for the revision process

Noting the work of the revision process could not be completed in 2007 as targeted, the WG proposed to extend the target completion date by one year with a second intersessional meeting of the WG to be held

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around October/November 2007 and agreed the draft TOR for the meeting.

The Sub-Committee (BLG 11) approved the report of the WG covering items 1 thru 9 of the above and will be forwarded to the Marine Environment Protection Committee for approval in July 2007.

Y M Cheng

Some Facts & Figures

Recent statistics reveal China be the leading shipbuilder by the year of 2015.

In 2006, China has taken over Japan and ranked as 2nd place in the world shipbuilding industry after Korea.

The statistics show China taking 25.4% of world market (amounting total order of USD 105.5 billions) and many Chinese yards have fully order book until 2010 or beyond.

China's order intake rises drastically in the first quarter of 2007. This trend predicts China be the first place in the world shipbuilding industry by 2015 or even earlier.

The market share is listed in the following table for comparison.

Country \ Year	China	Korea	Japan	Others
2005	17.3%	35.2%	26.9%	20.6%
2006	25.4%	40.9%	22.9%	10.8%
Increase rate (2005/2006)	46.8%	16.2%	-14.9%	-47.6%
1 st Q 2007	51.3%	26.8%	9.4%	12.5%

I M Ng

New Marine Initiative – Authorized Surveyor

The newly implemented legislation, namely Merchant Shipping (Local Vessels) Ordinance (Cap 548), came into force from 2 January 2007. The new Ordinance repeals the Merchant Shipping (Launches and Ferry Vessels) Regulations (Cap313E), Merchant Shipping (Miscellaneous Crafts) Regulations (Cap313F) and some parts of the Shipping and Port Control Ordinance (Cap313). It removes the obsolete requirements, simplifies the category of local vessels and re-groups the various standards. From ship inspection point of view, the new Ordinance (Cap 548) permits private surveyor ("competent surveyor") to carry out plan approval and survey of local vessels.

The new Classes of local vessels are Classes I to IV. Class I is passenger vessel carrying more than 12 passengers. Class II is vessel carrying 12 passengers or below and other miscellaneous crafts such as tug, workboat, barge, tanker, dumb lighter etc. Class III is fishing vessel and Class IV is pleasure vessel. The new classification of vessels groups and aligns a common set of technical requirements for similar category of vessels.

In order to uphold the well-established standards for a certain type of vessel (e.g. high risk vessels), the plan approval and survey work for the following vessels are to be continuously carried out by Marine Department staff only:

- (a) Class I vessels;
- (b) Class II oil tanker, noxious liquid substances carrier, dangerous goods carrier and vessels intended to carry cargoes of hazardous nature;
- (c) Class IV vessel carrying over 60 persons.

The plan approval and survey work for other classes of vessels may be conducted by competent surveyor in stages in the initial 3-year period.



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Competent surveyors include:

- (a) authorized surveyor;
- (b) surveyors of recognized classification societies; and
- (c) surveyors of recognized authorities (e.g. other government authorities).

With regards to authorized surveyor, Marine Department, subsequent to consultations with the industry, has set out the following criteria and requirements:

(a) Qualification:

Registered as a Registered Professional Engineer (Marine and Naval Architecture Discipline) and having his name on the register established under section 7 of the Engineers Registration Ordinance (Cap 409); and

(b) Experience:

At least have 4-year maritime engineering practical experience (Note) that the Marine Department considers appropriate, including either –

- (i) 9 months accumulated practical experience gained in the field specified in (c) of the Note, or
- (ii) totally 1 year accumulated practical experience gained in the fields specified in (a) to (c) of the Note, with at least three months experience gained in the field specified in (c) of the Note.

[Note: The “maritime engineering practical experience” means accumulated working experience in the field of marine engineering and/or naval architecture, including (a) marine engine and system maintenance or repairing, operation inspection or technical services of vessels, (b) ship design or structural construction or ship-repairing / maintenance; (c) plan approval, inspection or survey of newly-built or existing vessels including structural part inspection, the testing of engine, system and equipment installations.]

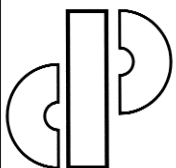
The application form for authorized surveyor and relevant requirements of application can be accessed via the following direct URL:

http://www.mardep.gov.hk/en/forms/pdf/lvs_aaas.pdf

After submission of the application, Local Vessels Safety Section will vet the qualification, experience and supporting documents of the applicant. Upon satisfactory scrutiny, the Director of Marine will issue a letter with conditions and guidelines to the applicant. The applicant has to sign and return the relevant document to the Director of Marine if he accepts the conditions specified. His name will then be put on the web (http://www.mardep.gov.hk/en/pub_services/ocean/pdf/lvs_list.pdf) for the completion of the authorization process.

This authorization arrangement offers an alternative option (except for high risk vessels) to shipowners when they undergo the procedures and work to license their vessels locally. For further enquiries, please approach the Local Vessels Safety Section of Marine Department directly at telephone number 2852 4430, fax number 2542 4679 or e-mail “lvs1@mardep.gov.hk”.

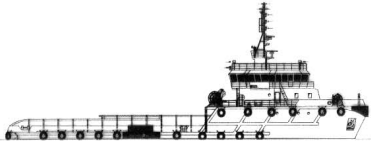
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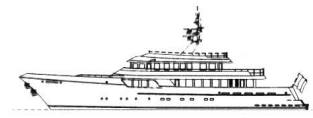
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HKIMT & HKJB News

Long-range Identification and Tracking of Ships (LRIT)

(SOLAS Amendment 2006 – Chapter V — Safety Navigation)

1. Background

The SOLAS amendment on LRIT was adopted in May 2006 and will come into force internationally on 1 January 2008

The SOLAS regulation on LRIT establishes a multilateral agreement for sharing LRIT information for security and search and rescue purposes, amongst SOLAS Contracting Governments, in order to meet the maritime security needs and other concerns of such Governments.

2. Application

The new regulation on LRIT will be introduced as a mandatory requirement for the following ships on international voyages:

- (i) passenger ships, including high-speed craft;
- (ii) cargo ships, including high-speed craft, of 300 gross tonnage and upwards; and
- (iii) mobile offshore drilling units.

3. Requirements for LRIT

The LRIT information ships will be required to automatically transmit include the ship's identity, location and date and time of the position. Data derived through LRIT will be available only to the recipients who are entitled to receive such information and safeguards concerning the confidentiality of those data have been built into the regulatory provisions. SOLAS Contracting Governments will be entitled to receive

information about ships navigating within a distance not exceeding 1000 nautical miles off their coast.

It shall conform to the “*Performance standards and functional requirements for the long-range identification and tracking of ships*”, adopted by the Maritime Safety Committee of the IMO by resolution MSC.210(81) dated 19 May 2006.

4. Installation of LRIT

- (i) Ships built on or after 31 December 2008 need to install with an approved LRIT system on delivery;
- (ii) Ships built before 31 December 2008 and operating in sea areas A1 and A2 or in A1, A2 and A3 need to comply at the first radio survey after 31 December 2008;
- (iii) Ships that solely operate in service area A4 need to comply at the first radio inspection after 1 July 2009;
- (iv) Ships fitted with approved Automatic Identification Systems (AIS) and operating exclusively within sea area A1 are not required to comply with the provisions of LRIT.

5. LRIT system

The LRIT system consists of the shipborne LRIT information transmitting equipment, the Communication Service Provider(s), the Application

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Applicants will be expected to be suitably qualified and experienced as a chief engineer, and possess a strong technical background. Experience in surveying, ship repair, conversion or consultancy work would be an advantage. Excellent written English and the ability to write concise reports are essential criteria, as well as the need for flexibility and the ability to work unsupervised. The work is challenging and rewarding, and often requires long hours and travel at short notice to carry out marine surveys in China or elsewhere as required in the Far East. Applicants must be computer-literate, and capable of preparing their own reports.

Applicants must be fluent in spoken English; proficiency in Mandarin would be an advantage. To apply in complete confidence, interested parties should in the first instance send a detailed resumé with present salary / remuneration to office@bmtsalvage.com.hk, marked for the attention of the Principal Surveyor.

Service Provider(s), the LRIT Data Centre(s), including any related Vessel Monitoring System(s), the LRIT Data Distribution Plan and the International LRIT Data Exchange. Certain aspects of the performance of the LRIT system are reviewed or audited by an LRIT Co-ordinator acting on behalf of all Contracting Governments.

Each Administration should provide to the LRIT Data Centre it has selected, a list of the ships entitled to fly its flag, which are required to transmit LRIT information, together with other salient details and should update such lists as and when changes occur as soon as possible. Ships should only transmit the LRIT information to the LRIT Data Centre selected by their Administration. If they are not establishing or participating in the establishment of a National, Regional or Co-operative LRIT Data Centre, then the International LRIT Data Centre should be used.

The obligations of ships to transmit LRIT information and the rights and obligations of Contracting Governments and of Search and Rescue services to receive LRIT information are established in regulation V/19-1 of the 1974 SOLAS Convention.

Y M Cheng

MD Color Boats Race on 9 June 2007

HKJB & HKIMT combined team participated in the HKMD's Color Boats Race held on 9th June 2007. The event was a successful one and well supported by local marine industry such as ferry operators, contractors, shipyards, pilot association as well as the marine & engineer institutes. With active participation from HKJB Chairman Nelson & members of HKJB & HKIMT and two pre-race practice drills in Saikung, our team finally achieved a mid position in both Color Boat



In High Spirits!!!



*Full Ahead!
The Colour Boat Team*



Celebration



*Group Photo of
the Jointed Branch
Participants*



The Full Term



Cheers!

Group Race and Midsize Dragon Boat Friendship Race. A big improvement from our previous records, this also demonstrates our team efforts, unity and good fighting spirit throughout the race. After the race

and the main party event, we were also invited to join a mini party hosted by the HK Marine Police Force where we had good food and drinks, then followed by a Karaoke at the Senior Officers Recreation Room in Government Shipyard. This activity left with us a lot of joys & funs and a good memory. Wish you were here to enjoy the good atmosphere and funs. Don't miss it out in the next year's Color Boat Race.

Albert Lo

Coming Events in 2007 / 2008

1. **Technical talk on Rice Husk "Green" Boards (EPF) – Its Development & Potential Applications – speaker PS KWAN, on 29 Jun 2007 (6:00pm-7:30pm at HKIE HQ) – jointly with HKIMT /HKJB and HKIE-G&E, led by Ir. Nelson YU**
2. **Ship Visit in Harbour in xx Aug 2007 – led by Ir. Laxman Kumar (tentative information)**
3. **Informal Experience Sharing on Hotel Services Maintenance (Speaker Mr. MK LAI on 12 Sept 2007 – jointly with HKIMT and HKJB, led by Ir. Albert LO**
4. **HKJB Chairman's Speech Evening (in Sept 2007) – led by Ir. Albert LO & Nelson Yu (tentative information)**
5. **Maritime Week 2007 and Exhibition (8 to 14 October 2007, Monday to Sunday) at Ocean Terminal Main Concourse, Harbour City, Tsim Sha Ysiu, Kowloon**
6. **Half-day Seminar on Maritime Environmental Issues (13 October 2007, Saturday) HKIE-HQ Causeway Bay, Hong Kong – jointly with HKIMT/ HKJB/HKIE-MMNC**
7. **Annual Ball 2007 on Fri 23 Nov 2007 at Hotel Shangri-La in Kowloon – jointly with HKIMT/ HKJB, led by Albert LO and Nelson YU**
8. **Marintec China 2007 (27 to 30 November 2007) in Shanghai New International Expo Centre, China**

Updated information of the above events will be placed in the website: www.hkime.org.hk

[Please mark you diary if you are interested in the above and also could meet other members for exchange / networking]

Forthcoming Ship Visit in August 2007

A visit to a modern bulk carrier or container ship during the cargo discharging in harbour is being organized and planned in August 2007, but at the time of writing the definite schedule is not available yet, please watch out our special notice and circular at www.hkimt.org.hk. Don't miss this good opportunity to see a modern ship.

Albert Lo

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